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FARMERS' BULLETIN No. 1765

GUIDES *for* BUYING

Sheets

Blankets

Bath towels



SOME MANUFACTURERS realize the consumer's desire for definite information about household textiles and are now giving facts about some of the most important properties of their products. In the absence of complete information, this bulletin brings out general points that will help the consumer to obtain the best value for her money. Whenever possible, results of experimental studies have been used to support the general statements.

The sections on sheets and blankets are a revision of, and supersede, Leaflet 103, Quality Guides in Buying Sheets and Pillowcases, and Leaflet 111, Quality Guides in Buying Household Blankets.

GUIDES FOR BUYING SHEETS, BLANKETS, AND BATH TOWELS

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BUYING HOUSEHOLD TEXTILES for the average home involves the expenditure of considerable money. But as yet very little information is available that will help the consumer to buy wisely, even though many of the fabrics for household use are simple in construction and comparatively free from fashion influences.

When the Federal Government and many other large agencies buy any fabrics, they write up detailed descriptions or specifications. The seller furnishes samples for testing, and before purchases are made the results of laboratory analyses must show that the merchandise comes up to the requirements set by the specifications. If consumers had this kind of definite information much of the guesswork would be taken out of retail buying.

At present a few sheets are labeled with their thread count and size, but statements concerning their durability are, for the most part, vague and indefinite. Little other than fiber content and size can be learned about blankets, and practically nothing is obtainable about bath towels. Until homemakers have definite facts to help them in buying, they must depend upon such general guides as appear in the following pages. While these suggestions may not give specific help on every point in the selection of household fabrics, they will serve as a guide to better purchasing and help the consumer to avoid some of the most inferior products.

SHEETS

When you buy sheets and pillowcases, what are your guides? Do you consider price alone? And how do you judge durability? Sheets and pillowcases are standard household cottons; you have a right to expect service from them. But their length of life depends on the qualities of the fabric at the start as well as on the care you give them.

Sheets can be classified into five groups—light, medium, and heavyweight muslins, fine counts, and percales. Each serves a definite purpose. For example, a heavy muslin sheet is strong, sturdy, and durable and is the best selection when hard wear is expected. On the other hand, the fineness and softness of a percale make it a better choice when appearance counts.

As an aid to consumers in judging the properties of sheets and

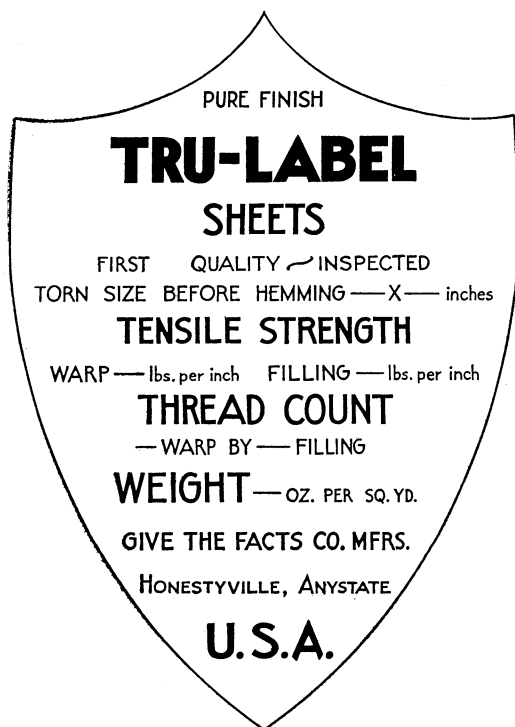


FIGURE 1.—An ideal label gives facts about the sheet.

pillowcases on the retail counter, some manufacturers are putting informative labels on their goods. To be ideal such a label should give thread count, breaking strength (sometimes called tensile strength), weight, and amount of sizing. It should also give the length and the width and tell whether the sheet is a first or a second (fig. 1). Not many cotton sheets sold at retail are labeled as completely as this, but you can find a few marked with their thread count, others with their breaking strength, and some guaranteed for so many washings. Of course, such superlatives as "extra special" and "the best sheet made" are too general to have real meaning. If you are one of the consumers who wants to buy from definite information, let the manufacturer know that you appreciate facts on the label.

CHARACTERISTICS OF A GOOD SHEET

A good sheet is firm in weave, is practically free from sizing, is torn rather than cut from the bolt, and is hemmed with strong thread and short, even stitches (about 12 or 14 to the inch). The better grades of sheets are made from cotton ranging from about 1 to 1½ inches in staple length. Short- and medium-length fibers, sometimes called short- and medium-staple cotton, are used for the lower qualities of sheets. Twisting binds the fibers and holds them in place. It also adds strength to the yarn and makes the fabric more durable.

THREAD COUNT

Thread count of the fabric means the number of yarns per inch both lengthwise (warp) and crosswise (filling). It is now generally stated as the number of each set of yarns in the finished fabric;

however, some manufacturers prefer to give the number of warp and filling in the cloth as it came from the loom and before it was finished, sometimes called "unfinished" or "in the gray." This thread count always differs from that of the finished cloth because, during finishing, the material is stretched more in one direction than in the other. Thus a sheet woven with 64 yarns to the inch in both directions will probably finish to one with about 70 yarns to the inch in the warp and about 62 in the filling.

If correctly stated, the number of warp yarns is given first. When the two numbers are the same, the fabric is often described as "square." For example, a cloth with a thread count of 64 by 64 may be called a "64 square." Sometimes the two numbers are added and the total yarns per square inch stated. A 72 by 68 thread count would then be termed 140 per square inch. Such a statement is not very valuable to the purchaser, since there is no way of knowing whether the 140 yarns are about equally divided between the warp and filling or whether there are many more one way of the cloth than the other. If the latter is the case, the fabric is "unbalanced" and probably will not wear well. A good-wearing sheet has about the same number of yarns in one direction as the other.

You can get some idea of the evenness and balance of a fabric by holding it between yourself and a strong light and noting how the warp and filling yarns look. But it is better to insist on knowing the thread count, especially when comparing sheets of different prices or buying a bargain. Low thread count is often the reason behind low price and short wear.

There are on the market sheets with a great variety of thread counts. For example, in a study made by the Bureau of Home Economics of 21 nationally advertised first-quality sheets the thread counts ranged from 59 to 106 in the warp and from 44 to 105 in the filling. In general, sheets with a low thread count are coarse and sleazy. They are usually not well-known sheets but are made to meet keen price competition. Sometimes they are called substandard counts. Muslin sheets satisfactory for everyday use have a finished thread count ranging from about 70 to 80 in the warp and from about 61 to 70 in the filling.

WEIGHT

Good, durable sheets are made in many different weights. If the sheet is light in weight, notice whether this is because it is made of very fine yarns placed close together, such as you find in a percale sheet, or because it is sleazy and poor in quality. Low weight may mean less wear. Sheets that are very light in weight and loosely woven always wrinkle, are uncomfortable to sleep on, and do not look well on the bed. On the other hand, too heavy sheets are cumbersome to handle, and if you are paying for your laundry by the pound, they run up the laundry bill and are uneconomical in the end. They are also more difficult to launder at home.

In the study made by the Bureau, the weights of the sheets ran from 3.3 to 4.6 ounces to the square yard. Sheets weighing less than 4 ounces to the square yard and with a thread count below 60 were called lightweight muslins. Those weighing between 4 and 4½ ounces make up a mediumweight group. A sheet weighing over 4½ ounces to the square yard is considered a heavy muslin. The thread

count for mediumweight muslin sheets usually ranges from 70 to 75 for the warp and between 60 and 65 for the filling; that of the heavyweight muslins from about 75 to 80 in the warp and 65 to 70 in the filling.

Lightweight sheets with a high thread count are either fine counts or percales. The fine counts, sometimes called utility percales, have a thread count of over 80 each way with a combined warp and filling count of at least 170. Percale sheets are made from combed rather than carded yarns and are very soft, fine, and smooth in texture. Their weight is about 3.7 ounces to the square yard and their finished thread count is over 100 in each set of yarns. As a rule, the combined warp and filling runs over 200 yarns to the square inch.

The particular weight of sheet you choose is largely a matter of personal preference. But if you know the weight of your sheets and which is most satisfactory, you can buy that weight next time and can also have a better basis for comparing different sheets in the store. Buying sheets by weight, that is by the number of ounces in a square yard, may seem a novel idea, but the Federal Government and many private institutions follow this plan. Weight is one of the specifications by which they buy their sheets in order to be sure of getting the same quality when they reorder. So find out the weight of the sheeting that best suits your purpose, and make it part of your standard in buying.

BREAKING STRENGTH

Another indication of wearing quality in a fabric is its breaking strength. To determine this property a textile expert uses an instrument that registers the number of pounds required to break a piece of the cloth. Two methods—the grab and the strip—are used.

For the grab method the samples of cloth are cut 4 inches wide and 6 inches long, but only a section 1 inch wide through the center is broken. In the strip method, the pieces of cloth are only 1 inch wide. The grab method, generally used in commercial testing and in some laboratories, gives higher values than does the strip method. This is due to the support given by the extra yarns on either side of the 1-inch section.

As might be expected, sheets vary greatly in strength in both the warp and filling direction. In the 21 studied for thread count and weight, the breaking strength by the grab method ranged from 48 to 79 pounds in the warp, and from 31 to 87 pounds in the filling direction. According to groups, the lengthwise strength for lightweight muslin sheets was 48 to 52 pounds, the crosswise 31 to 47 pounds. The mediumweights were 55 to 70 pounds in the warp direction and 41 to 61 pounds in the filling. Heavy muslins ranged from 65 to 79 pounds for the warp and from 67 to 87 pounds for the crosswise strength. The warp-breaking strength for fine counts was 58 to 70 pounds, the filling 30 to 69 pounds. Percales ranged from 52 to 72 pounds warpwise, and from 63 to 77 pounds fillingwise.

Since, in actual use and laundering, the greatest wear comes on the filling yarns, it is significant that in three-fourths of the heavy muslin sheets, half of the fine counts, and all of the percales the breaking strength, fillingwise, was as great or greater than in the warpwise direction, while only one of the six mediumweight sheets

and none of the lightweights were as strong in the filling direction as in the warp.

Unbleached sheetings are available in qualities and widths similar to the bleached. Bleaching weakens cotton fabrics somewhat, but with improved methods is less detrimental than it used to be. To many persons the snowy whiteness of the bleached sheeting more than makes up for the loss in breaking strength.

PERFECTION OF WEAVE

When a sheet is labeled a "first" or a "standard quality", this means that it is practically free from weaving imperfections, such as uneven yarns, or thick and thin places. Also every filling thread runs, unbroken, from selvage to selvage. Seconds may contain some weaving defects and imperfect yarns. Just how many flaws a second may have depends upon the standards set up by the mill that manufactured it, for as yet no definite regulations for grading sheets exist in the industry. According to the Worth Street rules (a collection of trade customs) goods with oil spots, unevenness in color, torn selvages, mildew stains, and loose hanging threads cannot be classed as seconds but must be packed separately, and sold by description. Sometimes sheets are marked "run of the mill." This means that they were sold before they were classified into firsts, seconds, or inferior gradings.

Sheets marked other than firsts should be sold at a lower price than a first. If you buy seconds or run-of-the-mill sheets, be sure to examine them carefully to see what the defects are. These flaws are usually the weakest part of the sheet (fig. 2). Here the holes and threadbare places appear first. On the other hand, some flaws affect only the appearance and not the durability of the sheet. If you know you are buying a second and are sure the imperfections are not serious, it may be an economical purchase. Some mills sell their firsts under widely advertised brand names and put their

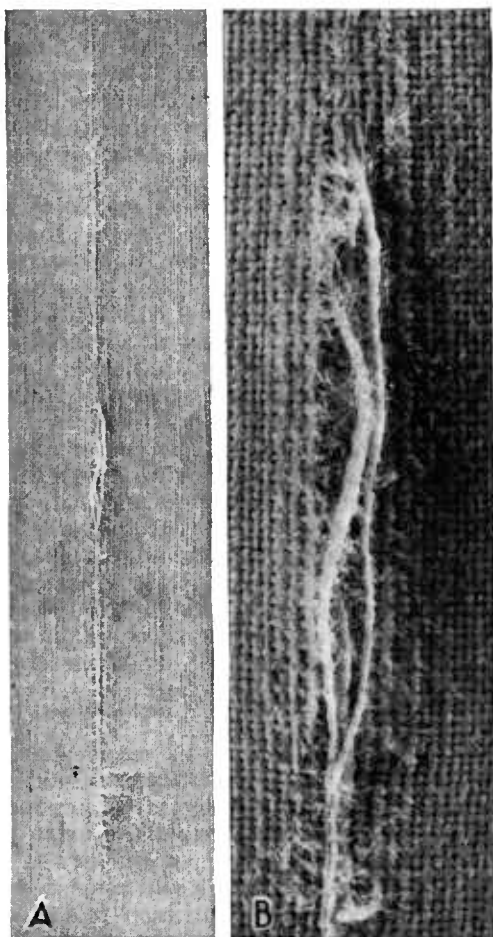


FIGURE 2.—A typical flaw in the weave of a new sheet: A, Original size; B, magnified.

seconds on the market as other brands less well known. If you run across a brand that is new to you, inquire about this point.

FINISH

Sizing is the starch and other materials used in manufacture to give sheeting a smooth finish. Some sizing on the warp yarns is necessary to keep them from breaking in the loom, and a little sizing on the fabric makes it more attractive and does no harm, but sometimes large amounts are used to fill up a poorly woven fabric and make it appear heavier. The quantity may vary from less than 1 percent in high-grade sheets to 20 or 25 percent in those of low grade. After one or two washings an excessively sized sheet will turn out to be thin and sleazy, quite different from the kind you thought you were buying.

Notice what the label on the sheet says about sizing and whether it gives the percentage. Some sheets are labeled "pure finish." This means that only the warp yarns were sized before weaving. Practically all of this sizing is removed during the scouring and bleaching processes. Very little, if any, is added in the finishing so that "pure finish" sheets as a whole contain less than 2 percent of sizing. "No weighting" indicates that no heavy materials, such as china clay, were used. Rub the fabric between your hands to see if sizing comes out. If a powdery material dusts out, the chances are that the fabric will be coarse and sleazy after a few washings. Rubbing, however, is not an absolute test for sizing. A sheet may have as much as 6 percent and still none may rub out. If you are buying sheeting by the yard, take home a sample and notice if its weight and appearance change a great deal when you wash it.

Some sheets are made of mercerized yarns or are mercerized after they are woven. Mercerizing produces a permanent gloss and adds to the attractiveness of the sheet. It is well to inquire whether a linen-finish sheet is mercerized or has merely been given a temporary gloss.

SELVAGES AND HEMS

The selvages on a sheet receive hard wear. Many are wider and heavier than on other fabrics of similar construction. Extra yarns, such as in a tape selvage, are intended to strengthen the edges. A tape selvage, if well made, has extra yarns so woven in as to reenforce it greatly. Some of the newer sheets have extra warp yarns put in along the selvage and some even have a second selvage woven in about a quarter of an inch from the edge. These devices are intended to lessen wear on the edges or at least to eliminate the need for hemming. Although it is the filling that usually breaks first at these points, the additional lengthwise yarns may stiffen the edge enough so that it will not fold back and cut out during ironing.

On a high-quality sheet the hems are turned evenly and closed at the ends. The stitching is fine and the threads are fastened securely. The hems on the two ends may be the same width, but more often one is wider than the other. Sometimes one is hemstitched. While this adds to the attractiveness of the sheet, it shortens the length of service and increases the cost. Breaks occur first in the hemstitching; soon the entire hem tears off. Machine-stitched hems rarely tear

along the line of stitching before the sheet is practically worn out, but the stitching itself and the folded edge may wear badly.

Some percale and fine-count sheets have a 4-inch instead of the usual 3-inch hem on one end. This wider hem serves no purpose other than adding to the appearance. When buying a sheet with a 4-inch hem, be sure that the material was cut an inch longer to make up for the wider hem. Otherwise you have this wide hem at the expense of the length of the sheet.

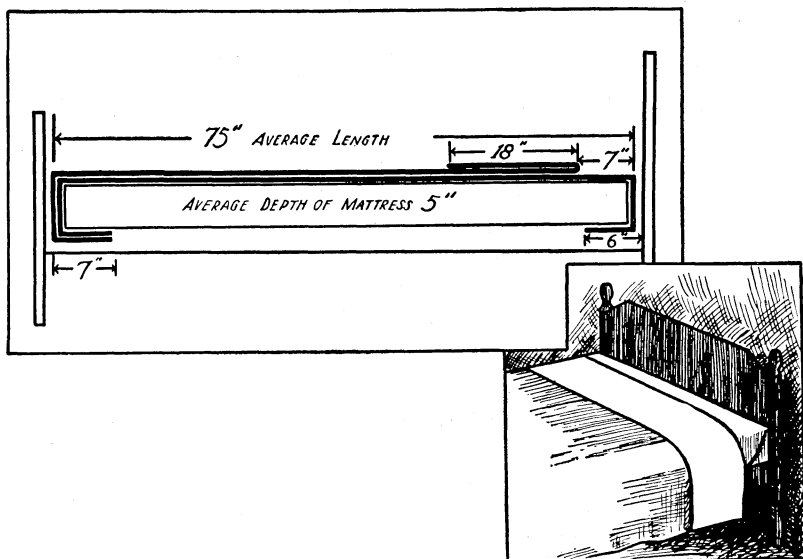


FIGURE 3.—A 108-inch sheet allows 5 inches for shrinkage and a generous tuck-in at both the foot and head of the bed. A sheet of ample length stays in place and makes a well-tailored bed.

Very little, if anything, is saved in buying sheeting by the yard and hemming your own sheets. In most cases the difference is only 5 or 6 cents—10 cents at the most—for each sheet, and that scarcely justifies the time and trouble.

Color on bed sheets becomes the style from time to time. It may appear as a solid color in pastel tones, or as colored hems, monograms, or other applied decoration. Such sheets may help to carry out the color scheme of a bedroom in a pleasing way, but the colors should be soft in tone and fast to washing if they are to be entirely satisfactory. Before buying sheets with colored hems, see that they carry labels guaranteeing that the color is fast.

SIZE

An under sheet should tuck in well under the mattress all the way around. The top one should tuck in securely at the foot and sides and turn back far enough over the other bed coverings to protect them (fig. 3). This is not merely for the sake of appearance. It adds to the comfort of the person who occupies the bed, and also means less wear on the sheet and the rest of the bedding. A sheet

that pulls out of place and becomes wrinkled and wadded is more likely to be torn than one held down firmly and smoothly.

Know the size of sheet you need before you buy. If you are in doubt, measure the size and thickness of your mattress and allow for generous tuck-ins. Remember that the length labeled on a sheet is the length before hemming. The finished sheet is about 5 or 7 inches shorter, depending on the width of the hems. It may shrink 5 to 8 inches in length when laundered.

Also notice whether the label specifies "torn" length. If so the sheeting was torn with the thread of the goods, and the sheet will stay true after washing and have straight, flat hems. When hems of a contrasting color are applied, be sure the threads of the hem run the same way as those in the sheet. The hem may have the warp threads running crosswise of the sheet. This will cause uneven shrinkage and drawing-in that ironing will not overcome. A sheet that is cut from the bolt, not torn, will take on its true shape in laundering and may then have puckered hems. Watch this point especially in buying sheets with colored hems.

For general household use, sheets 99 or 108 inches long (torn length) are the most satisfactory, although you will find on the market sheets 90 inches and less. The common widths are 63 inches (single or twin bed), 72 inches (twin or three-quarter bed), 81 inches (double bed), and 90 inches (double bed). Bargain sheets are often smaller than standard.

Sheetings sold by the yard are usually 63 and 72 inches wide for twin or three-quarter beds and 81 and 90 inches for double beds. These widths are often given in terms of a quarter of a yard. For example, a 63-inch sheeting is called 7 quarters ($7/4$); a 72, 8 quarters ($8/4$); an 81, 9 quarters ($9/4$); and a 90, 10 quarters ($10/4$).

If your sheets seem to get shorter during use, remember that the way they are ironed influences their size to a great extent; that is, whether they are ironed selvage to selvage or end to end. Continued ironing in one direction increases the measurement that way and decreases it the other. Sheets ironed from selvage to selvage have increased in width as much as 3 to 4 percent. At the same time the length decreased from 7 to 8 percent, partly, however, because of shrinkage.

Sheets are rarely, if ever, preshrunk. In fact, this is unnecessary if they were large enough in the first place. Under present commercial practices it would probably cost less to buy them a few inches longer than to pay extra for preshrinking.

AMOUNT OF WEAR

The life of a sheet depends on its use and abuse as well as on its quality. But, assuming reasonable care, how long can you expect a sheet to wear?

As part of a study of the durability of various American-grown cottons when made into fabrics, the Bureau tested the wearing qualities of some mediumweight sheets. They were laundered after every night of use in a hotel. All were serviceable until used and laundered 197 times, and some lasted until used and laundered 252 times. Just what effect using a sheet more than one night between launderings might have upon its life is still undetermined. Sheets are sometimes advertised as able to withstand a certain number of launderings.

Wear and washing combined form a better measure of actual durability, but figures on the number of washings are at least a rough index of the time you can expect a sheet to remain in service.

The study also showed that sheets wear out first between the center of the bed and the pillow, where they are rubbed by the shoulders of the person sleeping on them. This wear can be distributed and the life of the sheet lengthened if the under sheets are used part of the time with the narrow hem at the head of the bed. It pays to watch every detail in the use and laundering of sheets. Many snags and tears are caused by rough places on the bedstead or exposed ends of bed springs. Mattress pads decrease the wear on both sheets and mattresses.

Strong bleaches used in laundering cut down the length of service a great deal. Plenty of soap and little or no bleach is good practice in all laundry work but is especially necessary with sheets which have to be washed often. Some authorities believe that ironing deteriorates a cotton fabric even more than wear or washing. Irons that are too hot gradually weaken the cotton even if the scorch is not deep enough to be seen.

Ironing folds through the center of the sheet is also bad practice. These folds are not only pressed in very hard by the iron but are further pressed by the weight of the pile when the sheets are stored. All this tends to break the yarns where they are creased at the edge of the fold. In many hotels and institutions where the durability of furnishings is an important item, all bedding and towels are folded by hand after they are taken from the ironer and only as many folds are made as the storage space requires. When commercial or household ironers are used, care must be taken not to iron in lengthwise creases along the selvages. This breaks the filling yarns, and the selvages soon tear off.

It pays to keep a record of the kind of sheets you buy and the date on which you purchased them. You then know better what kind to reorder.

FEDERAL SPECIFICATIONS FOR COTTON BLEACHED SHEETS

When you buy sheets you select them according to your household needs, your preferences, and your pocketbook. You may want heavy, durable muslin to withstand the wear and tear of romping boys, or you may be looking for the softest, smoothest fabric you can afford. Whatever you want, you need definite facts as a guide in buying.

A good illustration of the kind of facts you need is furnished by the Government's specifications for the heavy muslin sheets it buys. These are minimum specifications, drawn up to meet the requirements of a Government hospital or some such specific use. They are not set up to fit conditions in the household or in private institutions. They may not describe the type of sheets you need at all, but they suggest the kind of information that could be furnished to you on the labels of the sheets you see in the stores.

Federal specifications for bleached cotton sheets require that the minimum number of threads per inch shall be 74 in the warp and 66 in the filling. The minimum weight shall be 4.6 ounces per square yard. The minimum breaking strength (grab method) shall be 70 pounds in the warp and 70 pounds in the filling. The sheets shall

have a 1-inch hem at one end and a 3-inch hem at the other or a 2-inch hem at each end as specified, and the stitches shall be not less than 14 to the inch. All the sheets purchased are 99 to 108 inches long (torn length), except the 54-inch width, which is also purchased in a 90-inch length. They are 54, 63, 72, 81, and 90 inches wide.

PILLOWCASES

Practically all the tests for quality in sheets hold good also for pillowcases. Pillowcases are in fact made of sheeting woven in tubular form or in narrow widths. Pillowcase tubing is easier to make up, and does away with the possibility of a puckered seam down one side. Also with tubular casing, you can rip the end seam and remake the case so that the hardest wear comes in a new place, and you thus get longer service. As with sheets, the fabric for pillowcases should be torn, not cut, and the hems turned evenly so that they will iron flat. The stitching should also be well done and even.

The common sizes for cases are 42 by 36 inches and 42 by 38½ inches for a 21- by 27-inch pillow, and 45 by 36 and 45 by 38½ inches for a 22- by 28-inch pillow. It is always wise to have the case a little larger around than the pillow. Too-tight cases are under strain when the pillow is flattened down and soon break. Too-loose pillowcases look clumsy and are uncomfortable in use. The length is a matter of personal preference.

The Federal specifications for pillowcases call for the same thread count, weight, and breaking strength as for sheets. The hems must be 3 inches, straight, and of uniform width, the turn-under on the hem not less than one-fourth of an inch. Where the seams form a union of edges, a type of seam and stitch must be used which will prevent the raveling of the goods. The stitches in hems and seams must be not less than 14 to the inch. The sizes specified are as follows: 42 by 36; 42 by 38½; 45 by 36; and 45 by 38½ inches. The length refers to the torn length before hemming. As stated above, Government specifications are minimum only and will not necessarily be satisfactory to all household and institutional purchasers.

BLANKETS

Warmth and durability without too much weight are the qualities a practical woman desires most in the blankets she buys. She is looking for blankets that will keep out cold drafts and are strong enough to hold together in laundering and to resist wear by rubbing. At the same time, they must not be so heavy that they are uncomfortable as a bed covering, nor so expensively made that the average consumer cannot afford them.

Heat transmission, air permeability, tensile strength, thread count, weight, and resistance to abrasion are terms the textile experts use to describe these properties in blankets. Machines for measuring them are found in many textile-testing laboratories.

The results of a test recently made by the Bureau of 22 household blankets, representative of the various kinds sold in the retail stores and by mail-order houses, emphasize the need for stating the properties of each blanket clearly on the label.

WARMTH

Warmth, the chief quality of a good bed blanket, depends on the ability of the fabric to act as an insulator. The still air enmeshed in the cloth protects the person from cold drafts and keeps the heat generated by the body from escaping too rapidly for comfort. The kind of fiber, the nap, and the closeness of weave all contribute to warmth.

KIND OF FIBER

Most household blankets are made entirely of wool or cotton or a combination of the two. (Fig. 4.) In practically all the mixed blankets the warp is cotton, though a few with silk warp have appeared on the market.

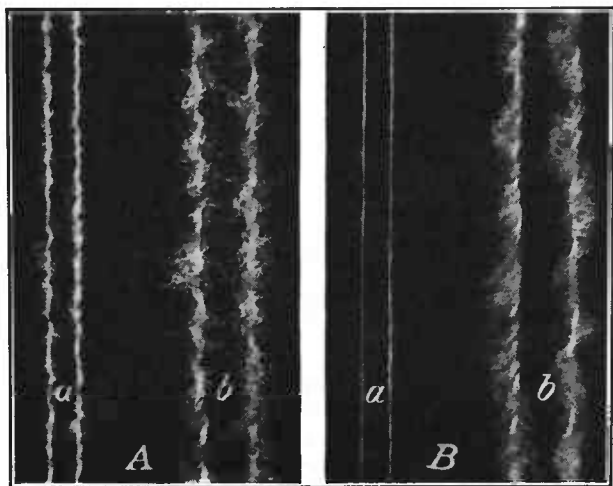


FIGURE 4.—Warp (*a*) and filling (*b*) yarns: *A*, Both yarns of all-wool blanket; *B*, cotton warp and core yarn filling in a part-wool blanket.

The filling of most blankets is either all wool or wool and cotton combined. Most authorities agree that 25 percent of wool is necessary to make an appreciable difference in warmth and to give the characteristic properties of wool, such as fluffiness, elasticity of nap, and ability to absorb moisture without making the blanket itself feel damp.

Late in 1932 a group of blanket manufacturers agreed to certain rules for labeling all-wool and part-wool blankets. These rules were issued by the National Bureau of Standards, of the United States Department of Commerce, as so-called "Commercial Standards" and became effective August 15, 1933. Under this agreement blankets must contain at least 5 percent of wool before the word "wool" can be used on the label. Those having less than this amount cannot be labeled "Part wool." Manufacturers accepting this trade practice further agreed that blankets containing 5 to 25 percent of wool shall be labeled "Part wool, not less than 5 percent", and those having more than 25 percent of wool shall be labeled with the guaranteed (minimum) wool content given in percentage. Blankets containing more than 98 percent of wool shall be labeled "All wool." All these percentages refer

to the wool content of the entire blanket and not to the amount of wool in the filling alone. Although the manufacturer may agree to the standards, labeling is not at all compulsory. He may make several qualities of blankets and label some without labeling others, or he may label all or none. The plan simply means that if he does label his blankets he shall designate the amount of wool they contain in accordance with the rules set up.

Cotton and wool blankets containing 80 to 85 percent of wool usually have an all-wool filling. When the wool content is between 5 and 80 percent the two kinds of fibers may be blended before the filling yarns are spun. Another way to combine wool and cotton for the filling, particularly in blankets having 5 to 25 percent of wool, is to use a so-called core yarn. This has a small cotton yarn in the center to increase strength. The wool is wrapped around the cotton core in such a manner as to put all of it on the outside where it can go into the nap and make for greater warmth.

Certain characteristics of the fibers themselves influence the warmth of the blanket. The crimp and the scaly surface of wool permit it to enmesh air in the cloth. Also wool is naturally elastic. This prevents the fibers in a wool blanket from packing, and if properly laundered, enables it to keep much of its original fluffiness. On the other hand, cotton fibers are straight, smooth, nonresilient, and shorter than wool. Therefore, laundering or weighting down a cotton blanket with other bed covers squeezes out the air and reduces its warmth. Because cotton lacks the elasticity of wool it cannot spring back to its original condition readily or completely. After a cotton blanket has been washed, it has to be renapped to restore its fluffiness and air-retaining ability.

When buying blankets for warmth, look for those with the highest percentage of good-quality wool within the price range you desire. Be sure to read carefully the label on blankets of mixed fibers and learn how much of each fiber has been used. The percentage of wool is some indication of the warmth of a blanket.

NAPPING

Napping increases the number of air pockets in a blanket fabric. It is a finishing process that pulls to the surface the loose ends of fibers from the soft, loosely twisted filling yarns in the foundation cloth. Briefly the method is this: After the foundation cloth is woven, it goes through a napping machine in which rollers covered with tiny wire claws revolve in one direction while the cloth travels in the opposite. The claws catch in the filling yarns and gently lift the free ends of the fibers. Sometimes the hook-covered burs of the teasel plant are used instead of the wire claws. The nap raised may be very thick or so thin that only the surface fibers are rubbed up. Naturally the more the fabric is napped, the weaker the filling yarns become. Also the weave becomes less distinct. That is why the weave of a napped blanket looks blurred when you hold it up to the light.

While napping makes a blanket a better insulator in one respect, it may also lower its power to resist wind or, in other words, may increase its air permeability. However, household blankets are generally used indoors and with sheets and comfortables which help to hold still air around the body. For this reason they can be more

loosely woven and heavily napped than blankets that are used out of doors and without other covers.

WEAVE

Hold the blanket up to the light to examine the closeness and evenness of the weave. If the cloth seems sleazy and thin in places it is probably too loosely and openly woven to be very warm. At the same time notice also the kind of weave. Most household blankets have either a simple twill weave or some modification of it, because a twill throws more filling to the surface than does a plain weave. Most of the reversible blankets have a modified twill weave which gives a great deal of filling on each side. Because there are more yarns to be napped this permits a thick blanket without so much injury to the foundation cloth.

DURABILITY

Durability comes next to warmth when selecting a blanket. It depends upon the quality of the fiber used in the yarns, the amount of napping, and to some extent upon its original size as well as on the way the blanket is washed.

THE BLANKET FABRIC

If long, strong fibers are used in the foundation fabric of a blanket, the napping process merely pulls up the ends of the fiber while the rest remains anchored in the yarn. But if the fibers are very short and weak, the chances are that they are pulled entirely out of the yarn or broken so that they are merely caught in the nap. These loose fibers soon lose their grip and roll up in little balls of lint that shake off when the blanket is used. The sleazy foundation that remains is weak and has scanty nap.

When buying blankets you can get some idea of the durability of the nap by pulling gently on it. Does it hold firmly in the fabric, or does it come out easily? Also rub the surface of the blanket briskly with the palm of your hand. Does the nap fuzz up and rub off readily? If not, you may safely conclude that fibers of good length were used in the yarns and that napping had little, if any, injurious effect upon them. But if much lint comes off you may be sure that short fibers were used in the first place or else long ones were broken during napping, and in that case the blanket will soon lose its warmth.

Hold the blanket up to the light to examine the weave as well as to see whether the nap is distributed uniformly over the entire surface. There should be no thick or thin spots. At the same time compare the closeness of the yarns and their regularity in size. Smooth, even yarns, regularly spaced indicate better quality than yarns that are uneven, lumpy, and irregularly woven.

Unfortunately, there is no satisfactory test the consumer can apply to blankets in the store to estimate their strength. So until the label gives definite facts on durability, this important property must be judged solely by appearance and feel—both inaccurate guides. If the blankets are of adequate length, however, they wear better. When a blanket is too short the sleeper pulls and stretches it to make it come up over his shoulders and neck. Unless a blanket

is long enough, if it is tucked in securely at the foot of the bed, the strain put on the yarns weakens them and in time causes holes.

In textile laboratories the durability of blankets is judged by their resistance to rubbing and by their breaking strength. The blanket is rubbed warpwise with an abrasive material and then determinations are made of the loss in weight due to wearing away the nap and of the loss in fillingwise breaking strength.

Two methods are used to determine the breaking or tensile strength as described on page 4. In practically no blanket of sufficient length need concern be felt over the durability of the warp yarns. During weaving they are stretched tautly in the loom and subjected to the wear of inserting the filling. They have to be strong to withstand this wear; otherwise they would break and cause trouble in the loom. Even though the warp yarns are smaller than the filling (fig. 4), they are more tightly twisted, and in the finished blanket they are nearly always the stronger. The filling gets less wear during weaving so that it is possible to use weaker yarns. In order to permit heavy napping with the least damage to the cloth the filling yarns in many cases are so soft and loosely twisted that they pull apart, especially during washing. The wool takes up so much water that the added weight puts more strain on the filling than it can stand unless the blanket is handled very carefully.

Oftentimes blankets are damaged when they are washed. Warm, soft water, mild soap, the least possible handling, and no sudden changes in temperature are essential for good results when washing wool blankets. Hot water suddenly changed to cool, strong soaps, and rubbing cause the scales on the surface of wool fibers to lock into each other. This is called felting and always results in shrinkage. Attempts to restore the blanket to its original size and shape break the fibers into short pieces so that they soon work out of the yarns. The scales are stripped off also, and the power of the fibers to hold in air is destroyed. Besides being less durable, the blanket is no longer so warm as it was when new.

END FINISHES AND BINDINGS

Blanket bindings (fig. 5, *C* and *D*) of silk and rayon in a satin weave or of cotton sateen are the most common nowadays, although some of the lightweight cotton blankets have a lock-stitch edge that wears well if the ends of the thread are securely fastened. Sateen is durable but usually fades some in washing. Silk or rayon bindings often wear out more quickly and have to be replaced sooner than the cotton, but generally hold their color, catch the soil less easily, and match the blanket fabric more closely than the cotton bindings. Since both edges of sateen bindings are raw, there should be at least two rows of stitching on bindings of this kind, one very close to the edge to prevent raveling and the other farther back to hold the binding securely in place.

Examine the way in which the ends of the binding are finished. On the better-quality blankets the binding is boxed at the corner; that is, folded back an inch or more at the end (fig. 5, *C*). This makes a very neat finish which wears well. Sateen bindings also are often finished in this way or are cut off flush with the side of the blanket, leaving a raw edge that is covered with an overlocking

stitch (fig. 5, *D*). Although it never looks so neat as the boxed corner, this finish may wear satisfactorily if the ends of the thread are well fastened. Pull gently on the threads to see that the stitching does not unravel.

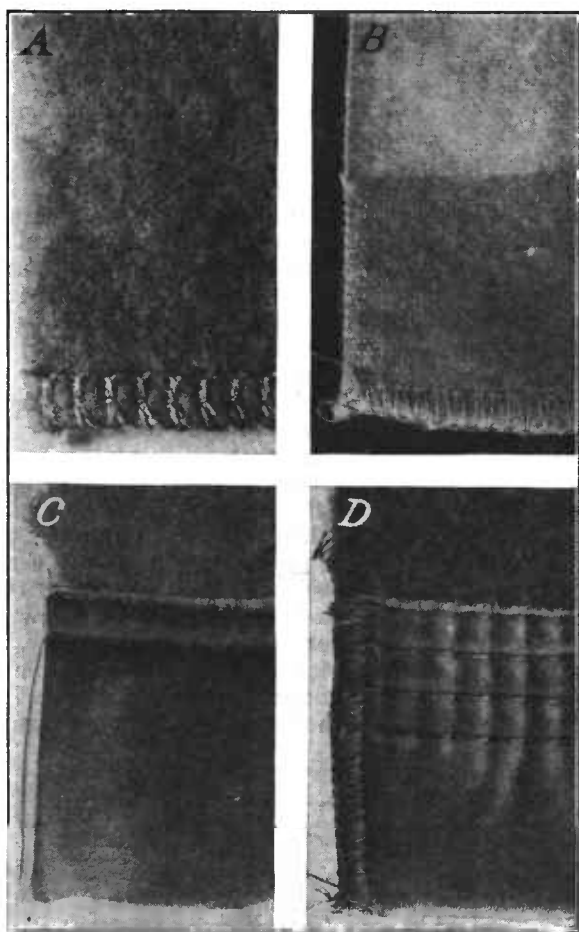


FIGURE 5.—Types of end finishes on blankets: *A* and *B*, blanket stitch; *C*, silk-satin binding; *D*, sateen binding.

WEIGHT AND SIZE

The finished weight of a blanket is sometimes designated on the label. This is helpful if you are comparing blankets of exactly the same size and fiber content. However, a much better method would be to state the number of ounces that a square yard of the blanket weighs. Then blankets of different widths and lengths could be judged on the same basis, and you could more easily choose the one suited to your needs. Until such a plan is put into practice, the following figures calculated by weighing and measuring a number of blankets may serve as a rough guide. They are not, however, to be considered as standard weights.

For a blanket 72 by 84 inches:

Total weight, pounds	Ounces per square yard
4½	15
3½	12½
3	10½

In comparing weights, be sure that the blankets are of the same material as well as of the same size. For example, if two all-wool blankets alike in size and price are different in weight, naturally the heavier one will give you more wool for the money. If one of the blankets contains some fiber besides wool, then you cannot compare them in this way.

Length and width of a blanket can be determined with reasonable accuracy in the store. Generally these figures are stated on the label. However, the Bureau found that actual measurements tallied with the claims in only 3 of the 22 blankets studied. If the size is not stated, the blanket can be easily and quickly measured.

Blankets should be long enough to tuck in at the foot of the bed and to come up well over a person's shoulders, and also wide enough to hang down over the sides of the mattress. To estimate the length of blankets to buy, measure the length and thickness of the mattress, then add at least 6 inches for a tuck-in at the foot. For the width, measure the width of the mattress and add the depth of the two sides. This gives the minimum size. It is better to allow a few extra inches each way for shrinkage and for take-up by the body. Sometimes novelty-weave blankets, for instance those that resemble homespuns, are made shorter than the regular household sizes. They are intended for slumber throws, so that a tuck-in is unnecessary.

TABLE 1.—*Sizes of blankets*

For single beds	For twin beds	For double beds
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
54 by 76	66 by 76	-----
60 by 76	66 by 80	70 by 80
60 by 80	66 by 84	72 by 84
60 by 84	66 by 90	80 by 90

Both price and weight, of course, vary with size. When buying blankets on the bargain counter or at special sales, be sure to examine them to see that they are the same size as those selling at regular prices. A difference in price may be due to difference in size.

Blankets range from 54 to 80 inches wide and from 76 to 90 inches long. Some years ago each manufacturer made blankets according to his own set of measurements. This, of course, resulted in a great many different sizes. In 1924 a group of manufacturers under the sponsorship of the Division of Simplified Practice of the National Bureau of Standards decided to limit the blanket sizes to the widths and lengths shown in table 1.

Now practically all qualities of blankets come in any of these sizes. However, the small sizes usually prove poor economy, because every blanket shrinks some in laundering. During recent years, when the price of raw wool was low, larger blankets appeared on the market, until now the 80-by-90-inch size, sometimes called a luxury size, is found commonly. A blanket of these measurements is sufficiently large to tuck in well and to cover even a very large person.

The length and width given for blankets always refer to a single thickness. For example, if a pair of double blankets is woven in one continuous piece 72 inches wide and 168 inches long, it will be labeled 72 by 84 inches. The same is true if a pair is cut in the middle, each bound separately, and the two sold as a pair.

APPEARANCE

Generally, color is of less importance when selecting blankets than warmth and durability. Since the range of colors for any quality is usually large enough to permit a choice that will harmonize with other furnishings, it is best to select quality first, then color.

Blankets may be plaid, or one color on both sides, either with or without contrasting borders across the ends, or two-tone reversible, that is, a plain color on one side and a contrasting color on the other. Some of the more luxurious reversibles have shaded borders. In recent years the trend has been toward solid-color blankets even in the inexpensive cotton ones.

Before deciding on the color, unfold and look at the entire blanket to make sure that it is an even tone all over. Some wools dye differently from others, and while this occasionally produces special color effects it may result in undesirable shadings.

While you have the blanket unfolded, examine the ends to see that they are cut straight. If there are stripes or borders, use them as guides. If the blanket is a plain color, hold it up to the light and see whether the end is cut parallel to the filling threads. Blankets that are cut crooked may be finished to appear straight, but, with use and washing will take on their true shape. If you should attempt to straighten such a blanket, you would probably end with one too short for comfort.

Be sure also that contrasting borders, stripes, and plaids are of the same fiber and woven in the same way as the rest of the blanket. A difference in the kinds of fibers or yarns or in the weave may cause a blanket to shrink unevenly when washed and leave ripples and puckers that you cannot smooth out. Notice stripes and borders especially. They should look the same as the rest of the blanket. If they seem taut or full, then they were woven under a different tension from the body of the blanket, and this difference will be even more conspicuous after the blanket is washed.

COMPARISON OF HOUSEHOLD BLANKETS

Many reasons for the consumer's difficulties in selecting blankets were brought out in a study made by the Bureau. The following comparison of blankets based on the analysis of 22 such blankets varying in price and fiber content shows how difficult it is to judge quality by appearance and the scanty information given on labels.

Among the all-wool blankets one was outstanding. It had a filling strength of 50 pounds (grab method) which was twice that of

any other in the group, with but one exception. This blanket was very warm and also showed the most resistance when tested for wear, but it was the heaviest of all examined (15 ounces per square yard). At the other extreme was a relatively inexpensive all-wool blanket, light in weight (8.6 ounces per square yard), but its filling strength (18 pounds, grab method) was only fair, and it was unsatisfactory in wear and warmth.

Among the 11 all-wool blankets analyzed was a blanket of medium price with filling strength (26 pounds, grab method) and weight (12 ounces per square yard) that lay about halfway between the highest and lowest for this group. It lost 30 percent in weight when tested for rubbing, whereas another lost 75 percent and one at the other extreme only 8 percent. When tested for air permeability, 94 cubic feet of air under a certain pressure passed through 1 square foot of this blanket per minute in contrast to the extremes of 173 and 69 cubic feet for the others. In heat transmission this blanket ranked sixth. While not unusually good in any of these properties, it may prove as satisfactory as some of those higher in filling strength, weight, or warmth, but low in other qualities.

One of the blankets in the all-wool group showed the effects of too much napping. It was soft, fluffy, warm, and of medium weight, but its filling strength was only 11 pounds (grab method) to the inch. That, together with the preponderance of short fibers found in the yarns, made it a very unsatisfactory purchase.

The wool-cotton blankets gave similar results. A mixed blanket containing 80 percent of wool proved to be stronger in the filling (60 pounds, grab method) than the best all-wool one. In warmth and resistance to wear it ranked next to the top for the wool-and-cotton-mixed blankets, but it was heavy (15 ounces to the square yard). The cotton-and-wool blanket most uniform in all respects contained only 25 percent of wool. For warmth and resistance to wear it came about midway between the extremes, and the weight (12 ounces to the square yard) was satisfactory. The strength of the filling was sufficiently high (38 pounds, grab method) and was probably due to the core yarns (fig. 4, *B*, *b*).

In the stores it is practically impossible for the housewife to compare blankets. As a rule the only definite information given is the size and, perhaps, the amount of wool the blanket contains. However, the trend is toward more complete labeling. One manufacturer is now stating the weight in ounces per square yard, tensile strength, and warmth, as well as giving size and fiber content. When others follow this lead the consumer will be able to compare the different properties of the several blankets she is considering and make her selections accordingly.

BATH TOWELS

Most women want bath towels that will wear a long time, yet dry the body quickly and thoroughly. At the same time they wish them to be easy to launder, right in size, fast in color, and perhaps to have attractive borders and all-over patterns. Usually the woman who buys bath towels for home use has nothing more than pretty color, appealing design, and suitable size to guide her. Rarely, if ever, has she facts that will really aid her in judging durability and drying qualities.

DRYING CAPACITY AND WEAR

In practically every bath towel there is a compromise between the properties that enable it to take up water and those that make for long usefulness. In order that a towel may take up the most moisture in the shortest time it should be soft and fluffy; that is, there should be little twist in the yarns, and the foundation fabric should be loosely woven. However, some twist in the yarns is necessary to give them strength. A firm foundation cloth is also essential to hold the pile yarns in place. A loosely woven, sleazy foundation material allows the pile yarns to pull out, and the fabric that is left takes up relatively little water. Then, too, it soon goes to pieces. So some sacrifice in drying capacity is usually necessary to produce a foundation cloth sufficiently strong and firm to give good wear.

COTTON AND OTHER FIBERS

Turkish towels are almost always made from cotton because it is soft, absorbent, and easily laundered. However, there is a natural waxlike coating on the fiber which must be removed before it will take up moisture. Nearly all finished towels have this waxy substance fairly well taken off, either in the bleaching or by washing, and only the comparatively few unbleached ones on the market nowadays have this coating. Because of it, unbleached towels absorb moisture very slowly regardless of the number and length of loops. It is advisable to wash any towel at least once before using it, to remove any remaining traces of the waxy coating and to fluff up the yarns so that they will absorb water readily.

A few bath towels have a linen pile. The linen increases the drying power of the fabric somewhat, but because of its harsher texture, it is used principally to give greater friction when rubbing the body. For the most part, these linen bath towels are made for hotels and clubs, but some are sold in the larger stores for household use.

Synthetic fibers are also being used to a limited extent in bath towels. Their chief merit probably lies in the added luxury appeal that they give to the terry fabric. At present the cost of bath towels containing these synthetic fibers restricts their purchase to a very few consumers.

CONSTRUCTION OF THE FABRIC

Turkish toweling is woven on a special loom with a terry-motion attachment. This forms loops on both sides of the cloth as the weaving progresses. To make a terry fabric, three sets of yarns are necessary—two for the warp and one for the filling. One of the warp sets is called the ground warp; the other, the pile. The filling interlaces with the ground warp to produce the foundation cloth. The pile merely adds bulk and absorptive power to the towel but gives no additional strength.

At present there is widespread interest in quality in fabrics, especially those in which fashion plays a minor part. In order to supply the consumer with information that will aid her in judging the quality of merchandise, the Bureau of Home Economics in 1934 began a study of the physical and chemical properties of bath towels.

Sixty pairs of turkish towels were bought on the retail market. Those either all white or white with colored borders were chosen

because they represent the largest volume of bath-towel sales. This choice also eliminated purely fashion items and any effect that dye in the yarns might have on the chemical tests. The 22- by 44-inch size, or the size nearest to that, was selected. The prices ranged from 14 cents to \$1.50 apiece.

In about half of the towels there was one pile yarn to each ground warp (fig. 6, *A*). In other words, the ground and the pile yarns alternated. This gave the same number of each set of these yarns to the inch. The rest of the towels had two pile yarns to each ground warp (fig. 6, *B*). This arrangement resulted in twice as many pile as ground warp yarns to the inch. Such towels are sometimes referred to as "double thread."

Each of the major classifications could be divided further on the basis of the kind of yarns used for the ground warp. Both single

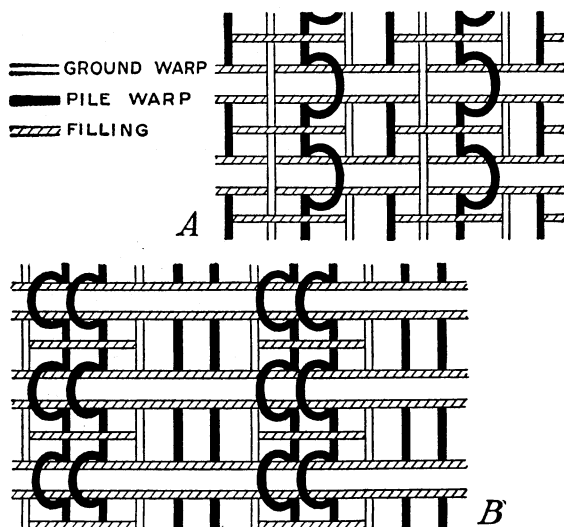


FIGURE 6.—Typical arrangements of ground and pile warp yarns in bath towels: *A*, One pile yarn to each ground warp yarn; *B*, two pile yarns to each ground warp. Alternating pile yarns produce loops on the reverse side of the fabric.

(one strand) and two-ply yarns (two strands each twisted separately and then together) occurred in each of these principal groups. In all, there were the four following classes of fabric construction based on the arrangement and kind of ground warp used:

- Type 1, twice as many pile yarns as single-ply ground warp.
- Type 2, an equal number of pile and single-ply ground warp.
- Type 3, twice as many pile yarns as two-ply ground warp.
- Type 4, the same number of pile yarns and two-ply ground warp.

The best place to examine the arrangement of the ground and pile warp yarns is where the terry weave changes to plain, as in stripes and borders, because it is easier there to distinguish one yarn from another. Towels with an all-over terry surface must be examined in the body. Occasionally the same kinds of yarns are used in the selvage as in the body of the towel, but this cannot be relied upon. Some selvages have ply yarns when single yarns are used in the foundation cloth. Even when they are the same, the yarns in the selvage offer no indication as to whether one or two ground warp yarns lie between the pile.

Practically all the terry towels on the market today have three filling yarns to every horizontal row of loops. This makes what is called a three-pick terry. Similarly, four or five rows of filling to each row of loops results in a four- or a five-pick terry, but these higher picks are used chiefly in upholstery fabrics, rarely in toweling.

As a rule, the pile warp and the filling are single yarns. When two-ply yarns are used, they are generally in the ground warp where they add strength and increase the durability of the cloth. Usually, too, they are in the higher priced towels, seldom in the inexpensive ones, because better quality fiber goes into ply yarns than into single ones. Besides, additional manufacturing processes are necessary when fine single yarns are spun first, then combined to produce ply yarns.

As a general thing, in the towels examined the physical properties, with the exception of water absorption, tended toward higher values as the price increased. Price also appeared to have some relation to the type of construction. Although all four classes were found in towels ranging in price from 36 to 65 cents, those priced from 14 to 35 cents were of type 1 construction; that is, they had half as many single-ply ground warp as pile yarns. Towels costing 75 cents or more were of type 4, with the same number of two-ply ground warp as single pile yarns.

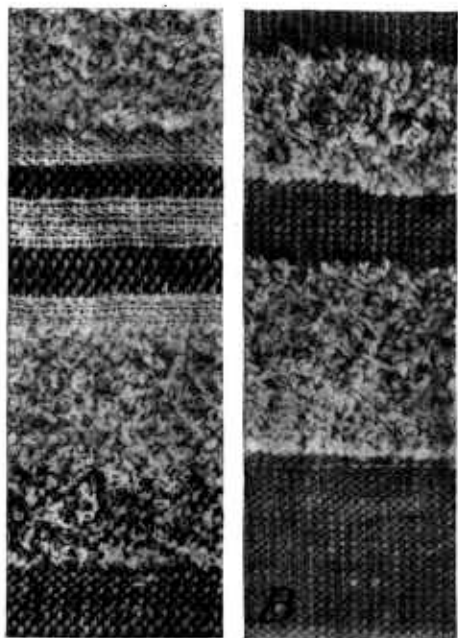


FIGURE 7.—A, Loose, sleazy weaves nearly always mean a weaker fabric warpwise than fillingwise; B, firm, close weaves help prevent snagged and pulled loops.

NUMBER OF YARNS TO THE INCH

As might be expected, bath towels have a wide variation in the number of threads to the inch in all three sets of yarns. For example, in those tested the ground warp ranged from 20 to 43 yarns per inch, the pile from 23 to 59, and the filling from 25 to 55. However, within each type of towel the range was usually somewhat less.

Naturally the closer the underweave, the more ground warp and filling yarns there are to the inch and the more securely the pile yarns are held in place. In buying bath towels, look then for a closely woven, firm foundation fabric (fig. 7, B) and you will get more material for your money and better satisfaction.

It was found that the lowest priced towels (those under 35 cents) had the lowest number of yarns per inch both warpwise and fillingwise, which, in turn, meant a comparatively low total number of

yarns to the square inch. This explained in part their low weight per square yard, which averaged, as a group, $9\frac{1}{2}$ ounces, as compared with 13 ounces to the square yard for towels of type 4.

PILE LOOPS

The pile loops increase the surface area of a terry fabric and largely determine how much and how quickly it can absorb moisture. To be most effective, the loops must be soft, reasonably close together, sufficiently long, and not too tightly twisted. The more pile yarns there are to the inch, the more loops a towel has. All the towels tested that had a pile-warp count of 44 or more had two yarns woven as one (types 1 and 3).

In the higher-priced towels there was a tendency toward longer loops than in the less-expensive towels. Loops about one-eighth inch long seem to be the most desirable. Those less than one-eighth inch long do not add appreciably to the surface area. While very long loops add materially to the drying power of the towel, they are likely to catch and pull out easily, thus shortening the period of usefulness.

STRENGTH

The warpwise breaking strength of the fabric is perhaps the best indicator of durability in bath towels. Breaks generally occur first in this direction because the ground warp

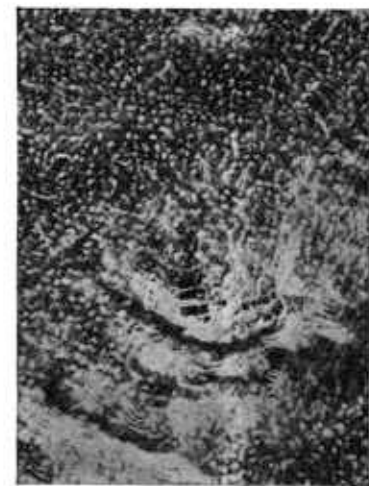


FIGURE 8.—Hole in bath towel resulting from a break in the ground warp.

yarns get the strain of weaving and much of the strain of wear as well. The strength of the ground warp yarns is influenced by the length and the amount of fiber used as well as by the amount of twist put into the yarn. Very short fibers make a relatively weak yarn that often pulls apart as the towel is used. In general, twisting increases the strength of the yarns and helps to hold the short fibers in place. To some extent the number of yarns to the inch also influences the breaking strength of the cloth. As a group the breaking strength warpwise and fillingwise of the towels tested averaged lower for towels of types 1 and 3 than for the other groups. This means, of course, that these towels will be less durable than the others even though the two pile yarns woven as one do add to the water absorption.

The warpwise breaking strengths for towels of type 1 ranged from 17 to 35 pounds per inch and the filling strengths from 31 to 53 pounds per inch. In towels of type 2 the warp strength for an inch strip of cloth varied from 21 to 70 pounds, whereas that of the filling was from 31 to 68 pounds. The values warpwise for towels of type 3 ranged from 34 to 43 pounds to the inch, and those of the filling from 37 to 45 pounds per inch of cloth. Towels of type 4 ranged from 41 to 70 pounds in the warp, and from 33 to 51 pounds in the

filling direction. All breaking-strength tests were made by the strip method, in which a piece of fabric exactly 1 inch wide was broken. There was insufficient material to make breaking-strength tests by the grab method, because with it each piece must be 4 inches wide.

The filling has little strain on it and requires less twist than does the ground warp. Because the chief function of the filling is to hold the pile yarns in place and to help form the foundation material, it need not be so strong as the warp. However, in half the towels in the study, the cloth was as strong, or stronger, fillingwise as warpwise. In many cases the greater strength was due to fewer ground warp than filling yarns to the inch. This explains why the ground



FIGURE 9.—Finishes on bath towels: A, Lock-stitched edge; B, hemmed edge; C, a poor type of selvedge that allows the filling yarns to wear off and release the ground warp as in D; E, a good type of selvedge in which every filling wraps around the last warp.

warp often breaks first. In towels where the strength of the ground warp is as much as the filling, uniform wear may be expected. When the ground warp breaks first, it permits the pile loops to stretch out and cause puffy places in the towel. Figure 8 shows a typical break of this kind.

SELVAGES, EDGE FINISHES, AND HEMS

In addition to a firm foundation weave, look for good selvages on both sides of the bath towel. Inexpensive terry towels are sometimes woven twice the finished width with a strip of plain fabric through the center. In finishing, the wide piece is split through the plain section and the raw edges lock stitched or hemmed (fig. 9, A and B). Lock stitching is not always durable and may soon result in loose yarns and badly frayed edges. Hemming may make the edges draw and the stitches crack or break. The edges then soon ravel. A good firm selvedge on both sides gives the best all-round service.

Recently one manufacturer introduced a towel that has the selvages across the ends. This puts hems on both sides. Instead of drawing up as do the hems on the sides of bath towels woven in the usual way, these hems, which are parallel with the filling yarns, stretch and ripple along the sides of the towel.

When choosing bath towels always look at the selvages to see that every filling wraps around the last warp (fig. 9, E). Many times the outside warp is caught with only every second or third filling

(fig. 9, *C*). This leaves loose warp yarns which catch and pull out or break, and the edges soon fray (fig. 9, *D*).

Hems ranging from three-eighths to an inch in width finish the ends of most towels. All raw edges should be turned under at least one-fourth inch, but if the hem is in the terry fabric instead of in the plain section a deeper turn-under is better. By holding the hem up between you and the light you can usually determine how much has been folded down the first time. The hems should be backstitched at the corners, or else the stitching should turn and continue across the end of the hem. Raw edges turned barely enough for the stitching to catch soon whip out, especially if the towel is hung in the wind to dry. Stitching that is clipped off flush with the edge of the towel ravels back shortly and makes unsightly corners with loose, shaggy, hanging yarns and threads. Good hems securely fastened at the corners wear as long as the towel itself. These may seem minor points, but they have much to do with the service towels give.

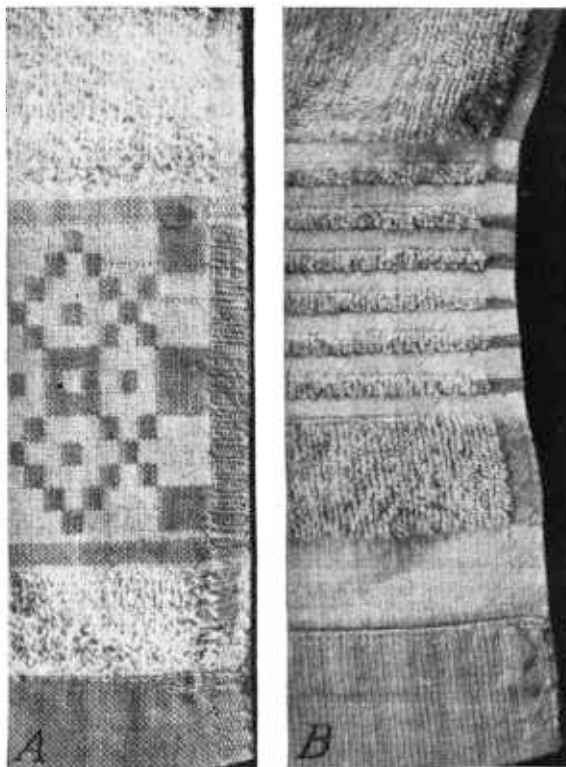


FIGURE 10.—*A*, A type of bath-towel border that launders well; *B*, the corded border shrank more than the terry fabric.

COLOR AND BORDERS

Before buying colored towels it is always well to inquire about their colorfastness to washing. In the days when bath towels were all white or had only a colored stripe across the end, we needed to give little thought to how they would wash. Nowadays, when they appear in soft pastel tones, striking black-and-white combinations, and a wide range of vivid colors, we are often so tempted by the lovely hues and appealing designs that we fail to consider whether or not they will launder well. After washing, many light pinks, blues, and lavenders may look dingy long before the towel is worn out; but using a bleach strong enough to remove the remaining color would probably ruin the cloth.

Some towels now carry a fast-color statement on their labels. It is not so important that colored bath towels or those with colored borders be fast to sunlight because they are rarely exposed to the sun, and if they are dried out of doors they should be hung in the shade as are other colored fabrics.

Examine the borders of bath towels, both white and colored, to see whether they are likely to shrink. Corded or embroidered borders tend to draw in when the towel is laundered (fig. 10, *B*). This ruffles the portion between the border and the hem and puckers the ends of the towel itself. Such a towel will dry the body just as effectively as any other, but it will not hang straight on the rack, and attempts to stretch the shrunken section back to its original width often strain or break the filling yarns so that holes soon appear. The types of borders shown in figure 10, *A*, are much more satisfactory than those in figure 10, *B*. Those in figure 10, *A*, do not shrink badly in washing because the kind of yarns and the tension on them are the same as in the foundation cloth.

Some towels have a contrasting border sewed on, which has some disadvantages. When the stitching breaks the border comes loose, and unless repaired at once may make a big rip. Another disadvantage is that where the border is attached there are five thicknesses of the terry fabric. This makes a very thick strip, which dries slowly and is hard to put through a wringer.

BATH-TOWEL SIZES

Personal preference often determines the size of towels bought. It is generally assumed that large ones will take up the most moisture, but this is not necessarily so. It is the amount of looped surface, as well as the length and width measurements, of a towel that determines how much water it will absorb. Large towels may have wide borders of plain fabric that reduce the drying surface; or they may have terry with its soft, absorbent loops all the way to the hem.

Among the towels examined were two measuring alike, 23 by 46 inches. One of those contained approximately 1,050 square inches of terry; the other contained only 800 square inches. Almost one-fourth of the length of the second towel was taken up by borders. In other words, its looped portion was about 11 inches shorter than that of the first towel. The next time you buy towels, be sure to notice the width of the borders. You get more drying area for your money in towels with narrow borders. However, you or some of your family may prefer wide borders of plain area which provide space for drying the ears. In that case the loss of a few inches in drying space is more than compensated for in comfort and satisfaction.

Deciding upon the best size of towel to buy is less bewildering today than it was a few years ago. At one time, when each mill used its own set of measurements, there were 96 different sizes of bath towels on the market, 74 of which were between 16 by 30 and 24 by 48 inches. In 1931 the leading towel manufacturers, under the guidance of the Division of Simplified Practice of the National Bureau of Standards, agreed to reduce the total number to six. As a result, practically all the towels sold now are either small (16 by

30 and 18 by 36 inches), medium (20 by 40 and 22 by 44 inches), or large (24 by 46 and 24 by 48 inches). Although these are the established sizes, actual measurements vary considerably from the accepted length and width dimensions. These variations are probably due as much to the finishing as to inaccuracies in cutting. The fact that a manufacturer agrees to the scale of length and width measurements recommended by the committee on standardization does not prohibit his making up special orders in other sizes.

Buying large, heavy towels is not always economical, particularly when there are children in the family. Small towels, light in weight, are easier for them to manage. If the design and quality are the same, a large towel always costs more than a medium-sized one; you probably get better quality for the money if you choose a 20- by 40-inch size rather than the 22- by 44-inch one, although they both belong to the medium-size class. Then, too, the lighter towels will be easier to handle on washday. If the laundry done outside the home is paid for by the pound, lighter weight towels are often preferred because the increased weight of large bath towels makes bigger laundry bills, especially if they happen to be put in while damp. A good plan is to buy large towels for the adults if they like them and small ones for the children.

Towels offered as "specials" or bargains are sometimes irregular in size. They may be cut short or woven narrow in order to sell at a lower price. In reality the price per square yard of towel is often just as much as that of regular-sized merchandise, or possibly more. For example, the quality being the same, a towel 21½ inches wide and 43¼ inches long (actual measurement), selling for the special price of two for 65 cents, is as expensive as the full 22- by 44-inch size taken from the regular stock and selling for 35 cents each. Sometimes, too, bargain towels, though full size, may be light in weight. Or they may be seconds—that is, imperfect in some respect. But not all sale towels are defective. Sometimes a merchant is able to buy the entire output of a small mill at a reduced cost. Under these conditions he may be offering regular stock at lower prices and passing on some of his savings to his customers.

When buying bath towels always remember that they shrink considerably in laundering. They may seem adequate in size when new but after a few washings may actually be too small. Many times the shrinkage is as much as 14 percent in the first five washings. After that they change very little in size.

WASHCLOTHS

Most washcloths are made from the same fabric as bath towels, but are used to give a mild friction to the skin and aid in cleansing rather than drying it. For this reason a firm terry is better for a washcloth than one that is too soft, and the woven fabric with loops on both sides is preferable to one with a knitted back. The knitted terry is very soft, readily stretches out of shape, and soon becomes stringy. However, because of its softness a knitted terry washcloth is especially suitable for use with babies, and even some grown-ups prefer it to the harsher textures.

In general, the same qualities that make for durability in bath towels also hold for washcloths. A good close foundation weave

keeps the loops securely in place; twisted, curly loops supply friction, and strong yarns postpone holes. The edges of a washcloth are usually lock stitched. Marks of quality are good square corners; close, even stitches on the edge; and well-fastened threads.

What is true of borders on bath towels is also true for washcloths. Tight, corded borders draw and breaks often come where the terry weave changes to plain. It is much better to choose washcloths without borders, for besides giving longer wear they have more frictional surface.

LABELS TO AID PURCHASERS

More helpful information is available to the consumer concerning sheets than concerning any other household textile. Practically all sheet manufacturers now state the size of the sheet on the label and many also give the thread count. A few tell the breaking strength and weight of the fabric as well as the kind and amount of finish. Sometimes the number of washings a sheet will withstand is given. This is intended to serve as a guide to the amount of wear that may be expected.

Unfortunately most blankets are not so well labeled, though it would be to the advantage of both the manufacturer and the consumer if the labels gave definite information about warmth and wearing qualities. For example, many manufacturers make several grades of all-wool and wool-mixed blankets, but the only difference the average homemaker can detect is in the price and possibly in the thickness and feel. She has no way of knowing which is the best buy for the money. In order that the consumer may select the best blanket the label should give: The length and the width in inches; the fiber content in percent; weight in number of ounces per square yard; the breaking strength of the fabric, especially fillingwise, and whether determined by the strip or grab method; and a measure of warmth, either heat transmission or air permeability or both. In wool-mixed blankets the type of yarn—whether the warp is all-cotton and the filling all-wool, a core yarn, or a blended yarn—should be stated.

The information available about bath towels is even more meager than that about blankets. A brand name for bath towels does not necessarily stand for particular qualities. In most cases, a bath-towel manufacturer makes a wide range of grades but markets them all under one brand name. The stock number of a particular towel is the only sure means of identifying it, but the housewife would find it almost impossible to use such a number.

In order to buy the best bath towel for her money, a consumer needs to know its length and width in inches; its colorfastness; the amount and rate of water absorption; number of filling and warp yarns, both ground and pile, to the inch; the breaking strength of the ground warp and the filling, and whether it was determined by the strip or grab method. In comparing various towels it is also helpful to know the weight—the number of ounces per square yard—and the number of square inches of terry in the entire towel.

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